Abstract

Title: The Reliability of Measuring on the Skytech Interactive Ski Simulator

Objectiv: The goal of this work is to investigate the reliability of the measurement of energy expenditure on the Skytech Interactive Ski Simulator.

Methods: The sample consisted of 14 subjects, among which were 9 boys and 5 girls. The value of energy expenditure was measured by indirect calorimetry using the energy equivalent and respiratory exchange ratio. For the measurement of respiratory gases, the Metamax 3B metabolic analyzer and for the analysis of heart rate, the Polar S610 heart rate monitor were used. The subjects completed two measurements, each lasting 6 minutes. During this time, the data needed for subsequent calculations reliability were measured. Assuming that the pair of measuring has a two-dimensional distribution, the reliability equals the correlation coefficient. It was computed using the maximum likelihood method.

Results: The measurement of energy expenditure on the Skytec Interactive Simulator provided consistent and reliable results. The findings in this study can be applied to further testing on this machine.

Conclusion: The reliability of energy expenditure reached 84%, a result better than the usual values of reliability tests, which may typically be about 80%.

Keywords: Energy expenditure, Pearson correlation coefficient, standard methods, validity